

BOTANICAL/COMMERCIAL CLASSIFICATIONViola cornuta/Viola PlantVARIETAL DENOMINATIONcv. 'Sunvioho'

5

BACKGROUND OF THE VARIETY

10 The genus of *Viola* is *Violaceae* plants and has about 500 species of annuals, biennials, evergreen, and semi - evergreen and deciduous perennials found in varied habitats in temperature regions worldwide.

Each flower has 5 petals a spurred lower petal, 2 lateral petals and 2 upward-facing upper petals.

15 Many cultivars within the genus are informally referred to as garden pansies, violas they are all derived from the complex hybridization of *V.tricolour*, *V.lutea*, *V.cornuta*, and other species.

20 *Viola cornuta* has played an important role in the development of garden violas and violettas as a result of cross breeding with the garden pansy which *V.wittorockiana*.

Viola cornuta is stem prostrate, Leaves is narrow to broad ovate, base cordate to truncate, margin deeply segmented.

25 The female parent used in the crossing of 'SUNVIOHO' was '9V-39a' which is our breeding line and grown at Omi R&D Center of Suntory Flowers Ltd.

30 The pollen parent used in the crossing of 'SUNVIOHO' was 'Alpine Sun', Whose seeds were bought from Daiichi Seed Co., Ltd. (Japan).

BREEDING PROCESS

35 First of all, crossing between '9V-39a' as female parent and 'Alpine Sun' as male parent was conducted at the Omi R&D Center of Suntory Flowers Ltd. April 2000. In May, some seeds were obtained from the crossing. The seeds were sown and grown there. In August 3 seedlings

were selected in view of having highly spreading habit with white petals from 20 seedlings obtained, and propagated by cutting. Those seedlings were carried out a trial by flower potting and bedding from October 2001, at the Omi R&D Center of Suntory Flowers Ltd. Finally one variety was selected in view of having long blooming time. The botanical characteristics of that plant were then examined, using similar variety 'Violetto Nive' and 'Alpine Summer' for comparison. As a result, it was concluded that this *Viola cornuta* plant is distinguishable from any other variety, whose existence is known to us, and uniform and stable in its characteristics. Then the new variety of *Viola cornuta* plant was named 'SUNVIOHO'.

Those of *Viola cornuta* plants, 'Alpine Sun' and '9V-39', are presently maintained at the Omi R&D Center of Suntory Flowers Ltd., located at 863-1, Aza-Iketani, Omori-cho, Yokaichi-shi, Shiga-ken, Japan.

This new and distinct variety of *Viola cornuta* plant, 'SUNVIOHO', was asexually reproduced by tissue culture at the aforementioned the Omi R&D Center of Suntory Flowers Ltd., and the homogeneity and stability thereof were confirmed.

DESCRIPTION

In the following description, the color-coding is in accordance with the Horticultural Color Chart of The Royal Horticultural Society, London, England (R.H.S. Color Chart).

The botanical characteristics of the female parent plant '9V-39a' used in the crossing of 'SUNVIOHO' are as follows.

Plant:

Stemmed or non-stemmed - Stemmed

Growth habit - Spreading

Height - 9 cm

Plant cover - 49 cm

Stem:

Length - 36 cm

Branching - Much

Pubescence - Present

5 Leaf:

Overall form - Long oblong

Apex form - Acute

Base form - Acute

Serrated, lobed or not - Serrated or lobed

10 Margin - Serrated or slightly lobed

Length - 1.9 cm

Width - 1.2 cm

Color of upper surface - Grayish olive green (R.H.S. 137A)

15 Color of under surface - Moderate yellow green (R.H.S. 137C)

Variation - Absent

Leaf luster - Lustrous

Vein - Distinct

20 Petiole length - 1.4 cm

Stipule length - 1.8 cm

Flower:

Peduncle length - 7.5 cm

Peduncle thickness - Thin

25 Peduncle color - Strong yellow green (R.H.S. 144B)

Flower form - Vertically oblong

Flowering direction - Upward

Longitudinal diameter - 3.2 cm

Horizontal diameter - 3.0 cm

30 Ruffle of petal margin - Weakly ruffled

Petal curving - Very weak

Petal number - Single

Flower color - Self-colored

<Upper petal>

35 Form - Round

Size - 1.6x1.6 cm

Petal color - Self-colored

- Ground color - Pale yellow green (R.H.S. 157A)
Blotch - Absent
<Side petal>
Form - Ovate
5 Size - 1.3x1.5 cm
Petal color - Self-colored
Ground color - Pale yellow green (R.H.S. 157A)
Blotch - Absent
<Lower petal>
10 Form - Cordate
Size - 1.9x1.9 cm
Petal color - Self-colored
Ground color - Pale yellow green (R.H.S. 157A)
Blotch - Absent
15 Eye color - Vivid reddish yellow (R.H.S. 14A)
Eye size - Medium
Thickness of petal - Medium
Spur length - Longer than the sepal appendage
Sepal - Short
20 Number of flowers - Many
Seed:
Color - Deep brown
Physical property:
Flowering time - Late
25 Fragrance - Faint or weak
<Resistance>
Rain - Strong
Cold - Strong
Heat - Medium
30 Disease - Strong
Pest - Strong

35 And the botanical characteristics of the male parent
plant 'Alpine Sun' used in the crossing of 'SUNVIOHO' are
as follows.
Plant:

Stemmed or non-stemmed - Stemmed

Growth habit - Spreading

Height - 8 cm

Plant cover - 35 cm

5 Stem:

Length - 25 cm

Branching - Much

Pubescence - Present

Leaf:

10 Overall form - Long oblong

Apex form - Obtuse

Base form - Acute

Serrated, lobed or not - Serrated or lobed

Margin - Serrated or slightly lobed

15 Length - 2.1 cm

Width - 1.0 cm

Color of upper surface - Grayish olive green (R.H.S. 137A)

20 Color of under surface - Moderate yellow green (R.H.S. 137C)

Variegation - Absent

Leaf luster - Matte

Vein - Apparent

Petiole length - 2.2 cm

25 Stipule length - 2.1 cm

Flower:

Peduncle length - 8.0 cm

Peduncle thickness - Thin

Peduncle color - Strong yellow green (R.H.S. 144B)

30 Flower form - Vertically oblong

Flowering direction - Upward

Longitudinal diameter - 3.3 cm

Horizontal diameter - 2.5 cm

Ruffle of petal margin - Flat

35 Petal curving - Weak

Petal number - Single

Flower color - Self-colored

- <Upper petal>
Form - Round
Size - 1.1x1.0 cm
Petal color - Self-colored
5 Ground color - Vivid yellow (R.H.S. 9B)
Blotch - Absent
- <Side petal>
Form - Ovate
Size - 1.2x1.0 cm
10 Petal color - Self-colored
Ground color - Vivid yellow (R.H.S. 9B)
Blotch - Absent
- <Lower petal>
Form - Cordate
15 Size - 1.4x1.3 cm
Petal color - Self-colored
Ground color - Vivid yellow (R.H.S. 9A)
Blotch - Absent
Eye color - Vivid yellow (R.H.S. 13A)
20 Eye size - Small
Thickness of petal - Thin
Spur length - Longer than the sepal appendage
Sepal - Short
Number of flowers - Many
25 Seed:
Color - Deep brown
Physical property:
Flowering time - Late
Fragrance - Absent
30 <Resistance>
Rain - Medium
Cold - Strong
Heat - Medium
Disease - Strong
35 Pest - Strong

The botanical characteristics of the similar variety 'Vioretto Nive' used for examination as a comparison are as follows.

Plant:

- 5 Stemmed or non-stemmed - Stemless
- Growth habit - Spreading
- Height - 7 cm
- Plant cover - 55 cm

Stem:

- 10 Length - 37 cm
- Branching - Much
- Pubescence - Present

Leaf:

- Overall form - Lanceolate
- 15 Apex form - Acute
- Base form - Acute
- Serrated, lobed or not - Serrated or lobed
- Margin - Serrated or slightly lobed
- Length - 2.8 cm
- 20 Width - 1.5 cm
- Color of upper surface - Grayish olive green (R.H.S. 137B)
- Color of under surface - Moderate yellow green (R.H.S. 137C)
- 25 Variegation - Absent
- Leaf luster - Matte
- Vein - Apparent
- Petiole length - 1.2 cm
- Stipule length - 2.5 cm

30 Flower:

- Peduncle length - 10 cm
- Peduncle thickness - Thin
- Peduncle color - Strong yellow green (R.H.S. 144B)
- Flower form - Vertically oblong
- 35 Flowering direction - Upward
- Longitudinal diameter - 4.0 cm
- Horizontal diameter - 3.4 cm

- Ruffle of petal margin - Weakly ruffled
Petal curving - Weak
Petal number - Single
Flower color - Self-colored
- 5 <Upper petal>
Form - Round
Size - 2.0x2.0 cm
Petal color - Self-colored
Ground color - Pale yellow green (R.H.S. 157A)
- 10 Blotch - Absent
<Side petal>
Form - Ovate
Size - 1.5x1.5 cm
Petal color - Self-colored
- 15 Ground color - Pale yellow green (R.H.S. 157A)
Blotch - Absent
<Lower petal>
Form - Cordate
Size - 1.6x2.1 cm
- 20 Petal color - Self-colored
Ground color - Pale yellow green (R.H.S. 157A)
Blotch - Absent
Eye color - Vivid yellow (R.H.S. 13A)
Eye size - Small
- 25 Thickness of petal - Thin
Spur length - Longer than the sepal appendage
Sepal - Short
Number of flowers - Many
- Seed:
30 Color - Deep brown
- Physical property:
Flowering time - Intermediate
Fragrance - Faint or weak
<Resistance>
- 35 Rain - Strong
Cold - Strong

Heat - Medium

Disease - Strong

Pest - Strong

- 5 The botanical characteristics of the similar variety 'Alpine Summer' used for examination as a comparison are as follows.

Plant:

- Stemmed or non-stemmed - Stemmed
10 Growth habit - Spreading
Height - 10 cm
Plant cover - 52 cm

Stem:

- Length - 44 cm
15 Branching - Much
Pubescence - Present

Leaf:

- Overall form - Lanceolate
Apex form - Acute
20 Base form - Acute
Serrated, lobed or not - Serrated or lobed
Margin - Serrated or slightly lobed
Length - 2.3 cm
Width - 1.1 cm
25 Color of upper surface - Grayish olive green (R.H.S. 137A)
Color of under surface - Moderate yellow green (R.H.S. 137C)
Variegation - Absent
30 Leaf luster - Matte
Vein - Apparent
Petiole length - 0.9 cm
Stipule length - 2.0 cm

Flower:

- 35 Peduncle length - 8.0 cm
Peduncle thickness - Thin
Peduncle color - Strong yellow green (R.H.S. 144A)

- Flower form - Vertically oblong
Flowering direction - Horizontal
Longitudinal diameter - 2.6 cm
Horizontal diameter - 2.1 cm
- 5 Ruffle of petal margin - Flat
Petal curving - Weak
Petal number - Single
Flower color - Multi-colored
- <Upper petal>
- 10 Form - Elliptical
Size - 1.3x1.0 cm
Petal color - Self-colored
Ground color - Strong purple (R.H.S. 86B)
Blotch - Absent
- 15 <Side petal>
Form - Ovate
Size - 1.0x0.7 cm
Petal color - Bi-colored
Ground color - Vivid yellow (R.H.S. 9B)
Blotch - Absent
- 20 Margin color - Light purple (R.H.S. 85B)
Vein color - Dark reddish purple (R.H.S. 79A)
- <Lower petal>
- 25 Form - Cordate
Size - 0.9x1.2 cm
Petal color - Self-colored
Ground color - Vivid yellow (R.H.S. 9B)
Blotch - Absent
Vein color - Dark reddish purple (R.H.S. 79A)
- 30 Eye color - Vivid yellow (R.H.S. 13A)
Eye size - Small
Thickness of petal - Thin
Spur length - Longer than the sepal appendage
Sepal - Short
- 35 Number of flowers - Many
- Seed:

Color - Deep brown

Physical property:

Flowering time - Intermediate

Fragrance - Faint or weak

5 <Resistance>

Rain - Strong

Cold - Strong

Heat - Medium

Disease - Strong

10 Pest - Strong

SUMMARY OF THE NEW VARIETY

The new variety of viola plant named 'SUNVIOHO', which is the first vegetative propagated variety, has a spreading plant habit with very long epigeal stem. The plant height is low and the branching is abundant. The flowers of the new variety are vertically oblonged and very small, and the color of flower is pale yellow green with vivid yellow eye. The new variety has a high resistance to cold, pests and diseases.

BRIEF DESCRIPTION OF THE DRAWING

FIG.1 is a photograph giving a partial view of the new variety of *Viola cornuta* plant 'SUNVIOHO' planted in pots.

FIG.2 is a photograph of flowers of the new variety of *Viola cornuta* plant 'SUNVIOHO'.

DESCRIPTION OF THE VARIETY

The botanical characteristics of this new and distinct variety of *Viola cornuta* plant named 'SUNVIOHO' are as follows.

Plant:

Stemmed or non-stemmed - Stemmed

35 Growth habit - Spreading

Height - 10 cm

Plant cover - 90 cm

Stem:

Length - 50 cm
Branching - Very much
Pubescence - Present

5 Leaf:

Overall form - Long oblong
Apex form - Obtuse
Base form - Acute
Serrated, lobed or not - Serrated or lobed

10 Margin - Serrated or slightly lobed

Length - 4.0 cm

Width - 2.0 cm

Color of upper surface - Grayish olive green (R.H.S.
137A)

15 Color of under surface - Moderate yellow green (R.H.S.
137C)

Variegation - Absent

Leaf luster - Matte

Vein - Apparent

20 Petiole length - 4.0 cm

Stipule length - 1.5 cm

Flower:

Peduncle length - 12 cm

Peduncle thickness - Thin

25 Peduncle color - Strong yellow green (R.H.S. 144A)

Flower form - Vertically oblong

Flowering direction - Upward

Longitudinal diameter - 3.5 cm

Horizontal diameter - 2.8cm

30 Ruffle of petal margin - Weakly ruffled

Petal curving - Weak

Petal number - Single

Flower color - Self-colored

<Upper petal>

35 Form - Round

Size - 1.7x1.7 cm

Petal color - Self-colored

- Ground color - Pale yellow green (R.H.S. 157A)
Blotch - Absent
<Side petal>
Form - Ovate
5 Size - 1.5×1.3 cm
Petal color - Self-colored
Ground color - Pale yellow green (R.H.S. 157A)
Blotch - Absent
<Lower petal>
10 Form - Cordate
Size - 1.5×1.8 cm
Petal color - Self-colored
Ground color - Pale yellow green (R.H.S. 157A)
Blotch - Absent
15 Eye color - Vivid yellow (R.H.S. 13A)
Eye size - Small
Thickness of petal - Thin
Spur length - Longer than the sepal appendage
Sepal - Short
20 Number of flowers - Many
Seed:
Color - Deep brown
Physical property:
Flowering time - Early
25 Fragrance - Faint or weak
<Resistance>
Rain - Strong
Cold - Strong
Heat - Medium
30 Disease - Strong
Pest - Strong

This new variety of *Viola cornuta* plant 'SUNVIOHO' is most suitable for flower bedding and potting, hanging basket and ground cover.

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COMPARISON WITH SIMILAR VARIETY

The new variety of *Viola cornuta* plant 'SUNVIOHO' is different from a similar variety, 'Vioretto Nive' in following points,

1. The plant width of 'SUNVIOHO' is wider than
5 that of 'Vioretto Nive'.
2. 'SUNVIOHO' has long oblong leaf while 'Vioretto Nive' has lanceolate one.
3. The leaf color of upper surface of 'SUNVIOHO' is R.H.S.137A while that of 'Vioetto Nive' is R.H.S.137B.
- 10 4. The longitudinal diameter of 'SUNVIOHO' is smaller than that of 'Vioretto Nive'.
5. The side petal form of 'SUNVIOHO' is ovate while that of 'Vioretto Nive' is round.
6. The flowering time of 'SUNVIOHO' is early while
15 that of 'Vioretto Nive' is intermediate.

The new variety of *Viola cornuta* plant 'SUNVIOHO' is different from a similar variety, 'Alpine Summer' in following points,

1. The plant width of 'SUNVIOHO' is wider than
20 that of 'Alpine Summer'.
2. 'SUNVIOHO' has long oblong leaf while 'Alpine Summer' has lanceolate one.
3. The flowering direction of 'SUNVIOHO' is upward while that of 'Alpine Summer' is horizontal.
- 25 4. The ruffle of petal margin of 'SUNVIOHO' is weakly ruffled while that of 'Alpine Summer' is flat.
5. 'SUNVIOHO' has self-colored flower while 'Alpine Summer' has multi-colored one.
6. The color of upper petal of 'SUNVIOHO' is
30 R.H.S.157A while that of 'Alpine Summer' is R.H.S.86B.
7. The color of side petal of 'SUNVIOHO' is R.H.S.157A while that of 'Alpine Summer' is R.H.S.9B with R.H.S85B margin and R.H.S.79A vein.
8. The color of lower petal of 'SUNVIOHO' is
35 R.H.S.157A while against that of 'Alpine Summer' is R.H.S.9B with R.H.S.79A vein.
9. The flowering time of 'SUNVIOHO' is early while

that of 'Alpine Summer' is intermediate.